

ABSTRACT

The invention is specially directed towards intermittent motion packaging machines where the packages are momentarily immobilized at a forming station for the time duration of the package sealing and cutting. The polymeric sheets or films are sealed and cut after being exposed to a laser beam in a controlled and optimized manner. The laser beam is shaped with appropriate optical elements to provide a desired intensity profile in the section of the films to be sealed or sealed and cut. With this method, a package can be sealed and cut simultaneously in one exposure step. An optical clamp holds the films together while they are being sealed by the laser. The optical clamp can reflect back to the films, partially or totally, the laser beam intensity that has not been previously absorbed. The optical clamp further allows to monitor the sealing and cutting process while the process is being performed.